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ABSTRACT

Complete outline specifications are given for the construction of supplementary classroom units using stressed skin panels. Sections included are--(1) concrete and related work, (2) masonry, (3) structural and miscellaneous metal, (4) curtain walls and metal windows, (5) carpentry and related work, (6) roofing, sheet metal, and related work, (7) painting, glazing, and related work, (8) floor covering and furnishing, (9) building specialties, and (10) electrical work. (MH)

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PREPARED BY

DOUGLAS FIR PLYWOOD ASSOCIATION

SPECIFICATIONS

FOR

SUPPLEMENTARY CLASSROOM UNITS

STRESSED SKIN PANEL

FOR

EF 000 959

ROBERT BRUCE WARING — ARCHITECT

DANIEL H. BROWN — STRUCTURAL ENGINEER

WALTER S. GORDON — ELECTRICAL ENGINEER

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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NOTICE:

"These plans are presented for your reference only. It is recommended that they be checked by an architect or engineer for local requirements such as building regulations, site conditions, etc. Because of factors beyond its control, the DFPA can assume no responsibility for structures based on these plans."

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SECTION 3B
CONCRETE, GENERAL

1. GENERAL

A. CONCRETE WORK - GENERAL

CONFORM TO REQUIREMENTS OF GOVERNING BUILDING CODE, HEREINAFTER CALLED UBC, AS MODIFIED AND SUPPLEMENTED HEREIN. "UBC STD" REFERS TO UNIFORM BUILDING CODE STANDARD.

B. JOB SUPERVISION & LABORATORY TESTS

SEE SECTION 1G, "INSPECTION & TESTS", FOR DETAILS.
COOPERATE WITH INSPECTOR; FURNISH MATERIALS FOR TESTING IF REQUIRED.

C. ALTERNATES

SEE SECTION HEADED "BASE BIDS, ADDITIVE BIDS & ALTERNATES."

2. FORMS

A. BOARD FORMS

"STANDARD" GRADE DOUGLAS FIR, SHIPLAP, NOT WIDER THAN 8 INCHES.
CONTRACTOR HAS OPTION TO USE PLYWOOD FORMS FOR SURFACES AGAINST EARTH, BEHIND FURRING OR WHERE OTHERWISE COVERED.

B. PLYWOOD FORMS

3/4 INCH DFPA "EXT PLYFORM", CS 45-60.

C. TREATMENT OF FORMS

(1) BOARD FORMS:
KEEP WET PREVIOUS TO POURING; WET THOROUGHLY JUST BEFORE POURING CONCRETE.

(2) PLYWOOD FORMS:
COAT WITH APPROVED STAINLESS FORM OIL.
FOR SURFACES TO BE PAINTED, USE MINIMUM QUANTITY OF OIL REQUIRED FOR FORM REMOVAL.

3. EMBEDDED ITEMS

A. ANCHOR DRIFT PINS. SHALL BE 3/8" O X 6" LONG EMBEDDED 3 INCHES INTO CONCRETE PIER BLOCK AS DETAILED ON SHEET NO. 1, AND OF STANDARD GRADE STEEL COMMON TO THE TRADE.

B. ANCHOR STEEL STRAPS SHALL BE 4 INCHES WIDE 20 GAUGE STEEL STRAPS AS DETAILED ON SHEET NO.1, EMBEDDED INTO CONCRETE PIER BLOCKS AS DETAILED.

4. CONCRETE INGREDIENTS

A. ADMIXTURES

DEWEY & ALMY "DAREX", SIKA "PLASTIMENT", MASTER BUILDERS "POZZOLITH", AIR ENTRAINING AGENT. ADD, IN PROPORTIONS RECOMMENDED BY MANUFACTURER, WHERE SO NOTED ON DRAWINGS.

B. CONCRETE BOND
DEWEY & ALMY "DARAWELD" OR LARSON PRODUCTS "WELDCRETE."

C. ALL OTHER INGREDIENTS
PORTLAND CEMENT, UBC STD. 26-1 TYPE 1.
CONFORM TO BUILDING CODE FOR ALL OTHER INGREDIENTS.

5. QUALITY OF CONCRETE

A. GENERAL
CONFORM TO BUILDING CODE.

B. COMPRESSIVE STRENGTH, IN POUNDS PER SQ. INCH AT AGE OF 28 DAYS:
FOR 2500 # F'C, 5 1/2 SACKS CEMENT/ CU.YD. CONCRETE, FOR ALL WORK.
FOR ALL OTHER WORK, AS NOTED ON DRAWINGS.

6. MIXING & PLACING CONCRETE

A. GENERAL
CONFORM TO BUILDING CODE, AS SUPPLEMENTED HEREIN.
MAXIMUM FREE DROP OF CONCRETE WHILE POURING, SIX FEET.

B. NOTICE OF INTENTION TO POUR
NOTIFY ARCHITECT AT LEAST 24 HOURS BEFORE AN INTENDED POUR.

C. COMPACTION
EMPLOY MECHANICAL VIBRATORS SUPPLEMENTED BY HAND SPADING, NEXT TO FORMS WHENEVER, IN THE OPINION OF THE ARCHITECT, IT IS NECESSARY AND AS DIRECTED.

D. CONCRETE BOND
COAT EXISTING CONCRETE SLAB EDGES TO BE PATCHED OR JOINED WITH NEW CONCRETE WITH CONCRETE BOND.
APPLY IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS.
BOND BETWEEN POURS IN WALL WORK USING CEMENT MORTAR OF SAME COMPOSITION OR MIX ON PREVIOUSLY WET, CLEAN SURFACES.

E. MAXIMUM SLUMP
BY ASTM C 143 PROCEDURES.
WALLS AND FOOTINGS 5".
SLABS 4".

7. CLEANING & REPAIRING CONCRETE

A. FORM TIE AND BOLT
REMOVE FORM TIES FOUR DAYS AFTER POUR, UNLESS DIRECTED OTHERWISE.
FILL HOLES WITH CEMENT MORTAR MIXED AS DRY AS PRACTICABLE AND RAMMED SOLID.

B. VOIDS & GRAVEL POCKETS
REPAIR AS DIRECTED.

C. FINISHING EXPOSED SURFACES
KNOCK FINS OFF SMOOTH; PATCH IMPERFECTIONS TO MATCH ADJACENT SURFACES.
LEAVE SURFACES CLEAN AND SMOOTH.

8. CONCRETE SLAB FINISHES

A. GENERAL

SCREED ALL SLABS, FOR WHATEVER FINISH, TO TRUE LEVELS OR SLOPES.

B. BROOMED SURFACE

SCORE SURFACE WITH BROOM JUST AFTER INITIAL SET.

C. MONOLITHIC FINISH

BRING SUFFICIENT MORTAR TO TOP OF SLAB FOR PROPER FINISHING.
USE MONOLITHIC FINISH FOR ALL CONCRETE SLABS AND WALKS.

9. CURING CONCRETE

A. CURING PERIOD

NOT LESS THAN 7 DAYS.
CURE CONCRETE FOR LONGER PERIODS WHERE CALLED FOR HEREINAFTER OR ARCHITECT DIRECTS.

B. EXTERIOR SLABS

COVER WITH CLEAN SAND; KEEP WET DURING ENTIRE CURING PERIOD.

END, SECTION 3B

SECTION 4B
MASONRY, GENERAL

1. GENERAL

A. BUILDING CODE

CONFORM TO REQUIREMENTS OF GOVERNING BUILDING CODES, HEREINAFTER CALLED UBC, AS MODIFIED AND SUPPLEMENTED HEREIN.
"UBC STD" REFERS TO UNIFORM BUILDING CODE STANDARD

B. WORKMANSHIP

(1) GENERAL:
LAY WORK TO TRUE LINES, PLUMB AND LEVEL, EXCEPT AS OTHERWISE INDICATED.
FILL JOINTS FULL OF MORTAR, EXCEPT:
(A) JOINTS IN OPEN-END HOLLOW MASONRY UNITS,
TAKE ESPECIAL CARE TO KEEP ABOVE SPACES CLEAN AND FREE FROM MORTAR DROPPINGS.

C. PRECAUTIONS

(1) IN FREEZING WEATHER, DO NO MASONRY WORK UNLESS:
(A) APPROVED MEANS ARE PROVIDED FOR HEATING MATERIALS, AND
(B) MASONRY IS PROTECTED FROM COLD AND FROST UNTIL MORTAR HAS HARDENED.
ANTI-FREEZE INGREDIENTS NOT PERMITTED.

(2) IN RAINY WEATHER:
DO WORK ONLY UNDER COVER.

(3) WHEN WORK IS NOT IN PROGRESS:
KEEP TOPS OF PIER BLOCKS COVERED WITH NON-STAINING WATERPROOF COVERING.

(4) WHEN WORK IS RESUMED:
CLEAN TOP SURFACES OF LOOSE MORTAR AND WET IF DIRECTED.

D. WETTING MASONRY UNITS

DO NOT WET CONCRETE BLOCK.

E. ALTERNATES - CONCRETE PIER BLOCKS.

SEE SECTION HEADED "BASE BIDS, ADDITIVE BIDS AND ALTERNATES."

2. HOLLOW MASONRY UNITS

A. CONCRETE MASONRY UNITS

HOLLOW CORE BLOCK MADE WITH HALF PUMICE, HALF SAND AND GRAVEL AGGREGATE, OR CONCRETE.
ASTM C 145-59 OR C 90-59
PROTECT UNIT FROM DAMPNESS AFTER DELIVERY.

END, SECTION 4B

SECTION 5F
MISCELLANEOUS STEEL & IRON

1. GENERAL

A. SHOP DRAWINGS
Submit in accordance with "General Conditions."

B. SHOP TREATMENT, After fabrication but before erection:
(1) Preparation of surfaces:
Remove rust, scale, grease and oil by wire brushing and chemical cleaning.
(2) Non-galvanized metal to be built into masonry and concrete.
One coat asphalt base paint.
(3) All other metal:
Paint one coat red lead in oil, Federal Specification TT-P-86A.

2. MATERIALS & WORKMANSHIP

A. STEEL & IRON
Conform to requirements of governing Building Code. Steel not otherwise specified, ASTM A 7-58T.

B. FABRICATION
Form steel to accurate sizes and shapes, with sharp lines and angles.
Punch and shear to leave clean surfaces.
Weld or rivet permanent connections; grind exposed welds smooth.
Do not use screws or bolts when they can be avoided.
Where used, countersink heads and draw up tight; nick threads to prevent loosening.
Provide holes and connections for work of other trades.

C. JOINTS & FASTENINGS
Detail for ample strength and stiffness; conceal wherever possible.
Where exposed to weather, form to exclude water.

3. MISCELLANEOUS STEEL & IRON ITEMS

A. JOIST & BEAM ANCHORS (As required by drawings)
(1) At wood and plywood box beams:
Provide of steel, as detailed, Spike in securely to wood joists and beams.

(2) At Concrete and Masonry:
Provide, UBC approved, type as shown.

B. JOIST & BEAM HANGERS (Where shown on drawings)
Steel, ASTM A 7-58T; Provide of sizes and types indicated.

C. MISCELLANEOUS ITEMS
Provide all other steel and iron items shown on drawings.

END, SECTION 5F

SECTION 7B
METAL WINDOWS

1. GENERAL

A. MANUFACTURER
ALUMINUM WINDOWS SPECIFIED IN THIS SECTION SHALL BE THE PRODUCTS OF ONE MANUFACTURER.

B. WINDOW DIMENSIONS
SHALL BE VERIFIED AT THE JOBSITE.

C. SHOP DRAWINGS
SUBMIT IN ACCORDANCE WITH THE "GENERAL CONDITIONS". SHOW ALL REQUIRED SECTIONS, ANCHORAGE, HARDWARE, ETC.

D. ALTERNATES
SEE SECTION HEADED "BASE BIDS, ADDITIVE BIDS AND ALTERNATES."

2. ALUMINUM WINDOWS

A. MANUFACTURE
LOUVRE KING ALUMINUM JALOUSIES, AS RECOMMENDED BY THE ARCHITECTURAL METAL MANUFACTURER'S ASSOCIATION AUTHORIZED TO PRODUCE TYPE OF WINDOW SPECIFIED BY GENERAL WINDOW COMPANY OR APPROVED EQUAL.

B. STANDARD SPECIFICATIONS
CONFORM TO W.A.A.M. STANDARD SPECIFICATIONS, AS MODIFIED HEREIN.

C. TYPE
COMMERCIAL ALUMINUM JALOUSIE, STANDARD HARDWARE, WITH WEATHERSTRIPPING.

D. FINISH
MANUFACTURER'S FINISH.
ALL ALUMINUM MEMBERS.

E. PROVISION FOR GLAZING
MANUFACTURER'S STANDARD GLAZING FROM OUTSIDE BUILDING, SINGLE THICKNESS GLASS.

F. WEATHERSTRIPPING
TYPE STANDARD WITH MANUFACTURER.

G. INSTALLATION
INSTALL IN NEW WOOD-BUCK-FRAMED OPENINGS, UNDER BASE BID, PLUMB, LEVEL, AND IN PERFECT OPERATING CONDITION.
ADJUST BEFORE AND AFTER GLAZING.

END, SECTION 7B

SECTION 8A
CARPENTRY AT SITE

1. GENERAL

A. BUILDING CODE
CONFORM TO REQUIREMENTS OF LOCAL GOVERNING CODES, HEREINAFTER CALLED UBC, AS MODIFIED AND SUPPLEMENTED HEREIN.
"UBC STD" REFERS TO UNIFORM BUILDING CODE STANDARD.

B. GRADING RULES
OFFICIAL RULES OF ASSOCIATION HAVING JURISDICTION.

C. GRADE TRADEMARKS
(1) PLYWOOD
EACH PANEL OF SOFTWOOD PLYWOOD MUST BEAR CFPA GRADE-TRADEMARKS LEGIBLY APPLIED TO EACH PANEL.
(2) LUMBER
ASSOCIATION GRADE MARK AND TRADEMARK MUST APPEAR ON EACH PIECE OF MATERIAL OR EACH SHIPMENT TO BE ACCOMPANIED BY A CERTIFICATE OF INSPECTION.

D. MAXIMUM MOISTURE CONTENT, WHEN DELIVERED:
LAMINATED FLOORS, 15%.
ALL OTHER FINISH MATERIALS, 19%.
FURNISH MOISTURE CONTENT CERTIFICATE IF AND WHEN REQUESTED.

E. ROUGH HARDWARE
PROVIDE ALL NECESSARY NAILS, SPIKES, SCREWS AND BOLTS REQUIRED FOR PROPER INSTALLATION OF CARPENTRY AND MILLWORK.
SIZES AND QUANTITIES REQUIRED BY BUILDING CODE OR AS APPROVED BY ARCHITECT.
HARDWARE EXPOSED TO MOISTURE HOT-DIPPED GALVANIZED.

F. ATTACHMENTS FOR WOOD ENGAGING NEW MASONRY & CONCRETE
APPROVED TYPE METAL PLUGS OR INSERTS, SPACED AS CALLED OUT ON THE DRAWINGS.
WOOD PLUGS EMBEDDED IN MASONRY OR CONCRETE NOT PERMITTED.

G. WOOD PRESERVATIVE
(1) BRUSH TREATMENT:
RUDD PAINT & VARNISH COMPANY'S "CUPROLIGNUM", OR APPROVED.
APPLY ONE HEAVY BRUSH COAT TO THE FOLLOWING SURFACES.
ALL WOOD FLOOR PLATES ON CONCRETE SLABS.

H. STORAGE & PROTECTION
PROTECT LUMBER AND MILLWORK FROM THE WEATHER.

I. TEMPORARY ENCLOSURES
WOOD BATTEN DOORS AND CLOTH OR TRANSPARENT PLASTIC COVERED WINDOWS.
WINDOWS MAY BE GLAZED IN LIEU OF COVERING IF GLASS IS PROTECTED.

J. ALTERNATE
SEE SECTION HEADED "BASE BIDS, ADDITIVE BIDS & ALTERNATES."

2. ROUGH CARPENTRY

A. ROUGH LUMBER
DOUGLAS FIR, SURFACES FOUR SIDES TO STANDARD DIMENSIONS EXCEPT WHERE ROUGH SAWN STOCK OR OTHER SPECIES OR SHAPES ARE SHOWN ON DRAWINGS OR SPECIFIED.
POSTS AND BEAMS, 1500 F WORKING STRESS GRADE.

A. ROUGH LUMBER (CONTINUED)
JOISTS "CONSTRUCTION" GRADE.
ALL OTHER ROUGH LUMBER, "STANDARD" GRADE.

B. ROUGH CARPENTRY - GENERAL
CAREFULLY LAY OUT, CUT, FIT, AND ERECT FRAMING.
SECURE WITH SUFFICIENT NAILS, SPIKES AND BOLTS TO INSURE RIGIDITY AND PERMANENCE.
PROVIDE FOR INSTALLATION AND SUPPORT OF PLUMBING, HEATING, AND VENTILATION WORK, AS REQUIRED AND CALLEDOUT IN SPECIFICATIONS OR ON THE DRAWINGS.
INSTALL WORK TO TRUE LINES, PLUMB AND LEVEL, UNLESS OTHERWISE INDICATED.

3. FINISH CARPENTRY

A. EXTERIOR FINISH LUMBER
PROVIDE EXTERIOR FINISH LUMBER AS SHOWN ON DRAWINGS OR REQUIRED FOR COMPLETION.
EXTERIOR FINISH LUMBER SHALL BE "B AND BTR." V. G. CLEAR DOUGLAS FIR, SIZE AS CALLED FOR ON DRAWINGS.

B. INTERIOR FINISH LUMBER
PROVIDE INTERIOR FINISH LUMBER AS SHOWN ON DRAWINGS OR REQUIRED FOR COMPLETION.
INTERIOR FINISH LUMBER SHALL BE "B AND BTR." V. G. CLEAR DOUGLAS FIR, SIZES AS CALLED FOR ON DRAWINGS.

C. INTERIOR TRIM
PROVIDE 1-1/4" x 1-1/4" V.G. FIR ANGLE TRIM AT ALL OUTSIDE CORNERS. PROVIDE 1/2" x 1/2" V.G. FIR AT ALL INSIDE CORNERS AND AT INSIDE CORNER OF WALLS AND CEILINGS.

D. INSTALLATION OF FINISH HARDWARE
INSTALL ALL FINISH HARDWARE SPECIFIED UNDER "FINISH HARDWARE" REQUIRED TO COMPLETE THE BUILDING. ALL HARDWARE ITEMS CAREFULLY AND ACCURATELY INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. PRIOR TO COMPLETION AND ACCEPTANCE, ALL MOVABLE PARTS ADJUSTED TO OPERATE PERFECTLY.
MAKE MINOR ADJUSTMENTS TO HARDWARE FOR A PERIOD OF ONE YEAR. AFTER COMPLETION AND ACCEPTANCE WITHOUT ADDITIONAL COST TO THE OWNER.
REMOVE ALL EXPOSED HARDWARE DURING PAINTING.

END, DIVISION 8A

DIVISION 8c
FIR PLYWOOD COMPONENTS

1. GENERAL

A. BUILDING CODE
CONFORM TO REQUIREMENTS OF LOCAL GOVERNING CODES.

B. GRADING RULES
OFFICIAL RULES OF ASSOCIATION HAVING JURISDICTION.

C. GRADE TRADEMARKS
REFER TO PAGE 1, SECTION 8A - LUMBER AND PLYWOOD.

D. SHOP DRAWINGS
SUBMIT IN ACCORDANCE WITH THE "GENERAL CONDITIONS."
SHOW ALL REQUIRED SECTIONS, DETAILS, ANCHORAGE, HARDWARE AND ETC.

E. ALTERNATES
SEE SECTION HEADED "BASE BIDS, ADDITIVE & ALTERNATES."

2. MATERIALS

A. PLYWOOD
ALL PLYWOOD USED IN THE CONSTRUCTION OF THE PLYWOOD BOX BEAMS, STRESSED SKIN FLOOR AND ROOF PANELS SHALL BE OF THE GRADE AND THICKNESSES CALLED OUT ON THE DRAWINGS AND SHALL BEAR THE GRADE TRADEMARK OF THE DOUGLAS FIR PLYWOOD ASSOCIATION IN ACCORDANCE WITH SECTIONS C AND D ABOVE. PLYWOOD USED IN THE CONSTRUCTION OF THE WALL PANELS SHALL BE 3/8" DFPA MEDIUM DENSITY OVERLAY ONE SIDE DOUGLAS FIR PLYWOOD OR 5/8" DFPA TEXTURE ONE-ELEVEN DOUGLAS FIR PLYWOOD OR WESTERN SOFTWOOD PLYWOOD CONFORMING TO CS45-60 OR CS122-60 DEPENDING ON THE TYPE OF MATERIAL USED. AVERAGE MOISTURE CONTENT OF PLYWOOD AT THE TIME OF GLUING SHALL BE BETWEEN 6 AND 7%.

B. LUMBER
LUMBER SHALL BE OF THE GRADE AND QUALITY AS CALLED OUT ON SHEETS 2 AND 3 FOR PLYWOOD BOX BEAMS AND STRESSED SKIN ROOF AND FLOOR PANELS. STUDS FOR WALL PANELS SHALL BE OF CONSTRUCTION GRADE KILN-DRIED DOUGLAS FIR HAVING A MOISTURE CONTENT OF NOT MORE THAN 16% AT TIME OF GLUING. ALL LUMBER SHALL BE FULL LENGTH AND GRADED PER PARAGRAPH 153-C WCLA-15.

C. GLUE
GLUE SHALL BE OF ROOM OR INTERMEDIATE TEMPERATURE SETTING RESIN ADHESIVE (PHENOL, RESORCINAL, OR MELAMITE BASE CONFORMING WITH MILITARY SPECIFICATION MIL-A-397B.)

3. FABRICATION

A. PLYWOOD BOX BEAMS
PLYWOOD BOX BEAMS SHALL BE FABRICATED IN ACCORDANCE WITH THE CURRENT EDITION OF DFPA SPECIFICATION BB-8 "FABRICATION OF PLYWOOD BEAMS," AND AS CALLED OUT ON THE DRAWINGS, AND SHALL BEAR THE TRADEMARK OF PLYWOOD FABRICATOR SERVICE, INC.

B. STRESSED SKIN FLOOR & ROOF PANELS

PANELS SHALL BE FABRICATED IN ACCORDANCE WITH THE CURRENT EDITION OF DFPA SPECIFICATION SS-8 "FABRICATION OF PLYWOOD STRESSED SKIN PANELS" AND AS CALLED OUT ON THE DRAWINGS, AND SHALL BEAR THE TRADEMARK OF PLYWOOD FABRICATOR SERVICE, INC.

C. WALL PANELS

WALL PANELS SHALL BE FABRICATED IN ACCORDANCE WITH THE CURRENT DFPA SPECIFICATION PW-61 "PLYWOOD WALLS" AND AS CALLED OUT ON THE DRAWINGS.

D. TEST SAMPLES

GLUE SAMPLES SHALL BE TAKEN AT LOCATION DESIGNATED BY SUPERVISING ARCHITECT.

E. APPEARANCE

1. PLYWOOD BOX BEAMS SHALL BE "CUSTOM GRADE."
2. PLYWOOD ROOF PANELS SHALL BE "CUSTOM GRADE."
3. PLYWOOD FLOOR PANELS SHALL BE "UTILITY GRADE" WITH EXTERIOR GLUE.
4. PLYWOOD WALL PANELS SHALL BE "CUSTOM GRADE" BUT MAY BE NAILED UNITS IF NAILING IS WITH GALVANIZED OR ALUMINUM FINISHED NAILS.

F. SHIPPING & STORAGE

EXPOSED SKINS OF ALL PANELS SHALL BE PROTECTED AGAINST ANY DAMAGE DURING FABRICATION AND DURING LOADING, SHIPPING AND UNLOADING AND SHALL BE THE RESPONSIBILITY OF THE FABRICATING CONTRACTOR, INCLUDING WATER DAMAGE DURING SHIPPING.
PANELS SHALL BE PROTECTED FROM RAIN, WATER OR MOISTURE OF ANY TYPE WHILE STORED AND DURING ERECTION.
THIS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

4. ERECTION

ERECTION SHALL BE BY THE GENERAL CONTRACTOR UNLESS OTHERWISE STATED IN DIVISION 13, "BASE BIDS, ADDITIVE BIDS & ALTERNATES".

5. WORKMANSHIP

WORKMANSHIP SHALL BE IN STRICT ACCORDANCE WITH THE ABOVE SPECIFICATIONS AND AS CALLED OUT ON THE DRAWINGS. ALL EXPOSED SURFACES OF ALL WORK SHALL BE A CONTINUOUS SMOOTH SURFACE FREE OF BLEMISHES AND BE ACCEPTABLE IN THE ARCHITECT'S ESTIMATION FOR PAINTER'S FINISH.

END, DIVISION 8c

DIVISION 8D
MILLWORK

MILLWORK SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1. GENERAL: TAKE NECESSARY MEASUREMENTS AT BUILDING, BE RESPONSIBLE FOR SAME. EXECUTE WORK IN STRICT ACCORDANCE WITH ARCHITECT'S DETAILS.

2. MATERIALS:

   A. FACIA - B & BTR. GRADE V.G. DOUGLAS FIR, WOODLIFE DIPPED.

   B. ALL EXPOSED SURFACES NOT SPECIFIED OR NOTED OTHERWISE B & BTR. GRADE DOUGLAS FIR.

3. FRAMES: DOOR AND WINDOW FRAMES SHALL BE AS DETAILED. ALL SHALL BE MILL FABRICATED AND ASSEMBLED. HEADS AND JAMBS OF DOOR FRAMES SHALL BE HOUSED TOGETHER. WHERE MEMBERS ARE S4S, BLIND MORTISE AND TENON. ALL JAMBS SHALL BE PLUMB AND TRUE.

4. DOORS:

   A. SOLID SLAB (ALL EXTERIOR DOORS) - 1-3/4" PAINT GRADE V.G. FIR. BUILD ON SOLID CORES, ALL MATERIAL KD TO PROPER MOISTURE CONTENT, WORKMANSHIP OF HIGHEST GRADE, EXPOSED CORE STRIPS AT TOP AND BOTTOM, ONE PIECE, 3/4" EDGE STRIPPING SAME SPECIES AND GRADE AS FACE VENEER. GRAIN OF FACE VENEER TO BE NOT LESS THAN 1/16" THICK. ALL DOORS SHALL BE DRUM SANDED.

   B. HOLLOW CORE DOORS (INTERIOR DOORS) - 1-3/8" PAINT GRADE V.C. FIR. FACE BOTH SIDES. ALL MATERIAL KD TO PROPER MOISTURE CONTENT, WORKMANSHIP OF HIGHEST GRADE, SIZE AND DESIGN OF DOOR AS INDICATED. PROVIDE SOLID BACKING FOR ALL HARDWARE.

5. WORKMANSHIP: ALL DETAIL WOODWORK SHALL BE INSTALLED IN A CRAFTSMANLIKE MANNER. ALL ANGLE JOINTS MITERED, ALL NAILS SET AND PUTTIED. ALL EDGES OF JAMBS AND TRIM MEMBERS WILL BE SLIGHTLY EASED BY SANDING. ALL EXPOSED FACES OF ALL DETAIL WORK SHALL BE HAND SANDED AS TO FORM A CONTINUOUS SMOOTH SURFACE FREE OF BLEMISHES AND BE ACCEPTABLE IN THE ARCHITECT'S ESTIMATION FOR PAINTER'S FINISH.

END, DIVISION 8D

SECTION 8G
ACOUSTIC TREATMENT

1. GENERAL

A. DEFINITIONS

TYPES OF ACOUSTIC MATERIALS, NOISE REDUCTION COEFFICIENT RANGES, TYPES OF MOUNTING, AND FLAME RESISTANCE RATINGS, HEREINAFTER SPECIFIED, REFER TO STANDARDS OF ACOUSTICAL MATERIALS ASSOCIATION, 355 EAST 45TH STREET, NEW YORK 17, N. Y., BULLETIN XXII - 1962.

B. SAMPLES REQUIRED

TYPE OF ACOUSTIC TILE SPECIFIED.

C. ACOUSTIC SUBCONTRACTOR

MUST BE APPROVED BY MANUFACTURER OF ACOUSTIC MATERIALS AND THE ARCHITECT.

D. ALTERNATE

SEE SECTION HEADED "BASE BIDS, ADDITIVE BIDS, & ALTERNATES".

2. MATERIALS

A. MANUFACTURERS APPROVED

SIMPSON, FISSURED MINERAL TILE OR APPROVED EQUAL, SUBJECT TO CONFORMANCE WITH SPECIFIED MATERIAL TYPES, N.R.C. SPECIFICATION RANGES, MOUNTING TYPE, LIGHT REFLECTION, AND FLAME RESISTANCE RATINGS OF THE REFERENCED A.M.A. STANDARDS.

B. ACOUSTIC TILE

(1) ACOUSTIC TILE

FINELY PERFORATED AND FISSURED CELLULOSE TILE. 12 X 12 INCH SIZE; MINIMUM 3/4 INCH THICKNESS. LIGHT REFLECTION "A"; FLAME RESISTANCE "C". N.R.C. SPECIFICATION RANGE .60 - .70 ON NO. 2 MOUNTING.
USE FISSURED TILE, FLANGE - JOINT APPLIED BY NAILING, STAPLING OR CEMENTING WITH AN APPROVED MASTIC, TO UNDER SIDE OF 1"x4" NAILERS AT 12" O.C.

C. CEMENT FOR ADHESIVE APPLICATION

MADE OR RECOMMENDED BY MANUFACTURER OF THE ACOUSTIC TILE, GUARANTEED TO HOLD TILE WITHOUT DETACHMENT WHEN SUBJECTED TO 400 DEGREES F. ROOM TEMPERATURE FOR 30 MINUTES.

3. INSTALLATION

A. GENERAL

CONFORM TO INSTALLATION RECOMMENDATIONS OF ACOUSTICAL MATERIALS ASSOCIATION, BULLETIN XXII - 1962, AS ARCHITECT JUDGES THEM APPLICABLE, AS MODIFIED HEREIN.

B. ACOUSTIC TILE

(1) GENERAL:

INSTALL IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS IN STRAIGHT LINE PATTERN, TO TRUE AND EVEN PLANE, WITH TOLERANCE OF 1/8 INCH IN 12 FEET. SEAL JOINTS AROUND PROJECTIONS WITH APPROVED NON-BLEEDING CAULKING COMPOUND.

C. EXPOSED EDGES OF TILE

WHERE EDGES ARE EXPOSED, BEVEL EDGES AS INDICATED ON DRAWINGS, FINISHED TO MATCH TILE.

D. ABUTMENTS

WHERE ACOUSTIC MATERIALS ABUT WALLS, COPE TO ABUTTING SURFACE, TIGHT, SMOOTH FIT.

E. CLEANING & REPAIRING

UPON COMPLETION, CLEAN SOILED AND DISCOLORED SURFACES, LEAVE FREE FROM DEFECTS. REMOVE AND REPLACE ACOUSTIC MATERIAL WHICH IS DAMAGED OR IMPROPERLY APPLIED.

END, SECTION 8G

SECTION 8H
THERMAL INSULATION

1. GENERAL

A. DEFINITION
PROVIDE AND INSTALL ALL INSULATION ON FLOOR, WALL AND ROOF STRESSED SKIN PANELS AS SHOWN ON THE DRAWINGS OR HEREIN SPECIFIED.

B. THICKNESS
THICKNESS OF INDICATED INSULATION; CONSIDERED AS NOMINAL, SUBJECT TO SUCH INCREASE OR DECREASE AS MAY BE NECESSARY TO PROVIDE HEAT SPECIFIED TRANSMISSION, VERIFY WITH SUPERVISING ARCHITECT.

C. ALTERNATE
SEE SECTION HEADED "BASE BIDS, ADDITIVE BIDS & ALTERNATES."

2. MATERIALS

A. MANUFACTURERS APPROVED
CELOTEX, OWENS-CORNING, "FIBERGLAS", JOHNS-MANVILLE OR EQUAL.

3. INSTALLATION

A. FLOOR PANELS
FASTEN INSULATION FROM BLOCKING TO BLOCKING BETWEEN STRINGERS IN FLOOR PANELS. SPACE SHOULD BE LEFT BETWEEN TOP SKIN AND INSULATION FOR VENTING IF REQUIRED. KEEP VAPOR BARRIER TOWARD "WARM-IN-WINTER" SIDE. INSULATE ALL AREAS AS SHOWN ON THE DRAWINGS, AND/OR AS REQUIRED. FASTEN FREQUENTLY ENOUGH TO CLOSE GAPS (FISH MOUTHS) BETWEEN FLANGE AND STRINGERS.

B. SIDEWALLS
CUT INSULATION GREATER THAN STUD HEIGHT. TOP AND BOTTOM FLANGE IS PROVIDED BY PRESSING INSULATION BACK FROM ENDS. PUSH FIBERGLASS UP AGAINST TOP PLATE OF WALL PANELS, KEEPING VAPOR BARRIER TOWARD THE "WARM-IN-WINTER" SIDE.
INSULATE ON COLD SIDE OF ELECTRIC BOXES.
FASTEN FLANGES TO STUDS FREQUENTLY ENOUGH TO CLOSE GAPS (FISH MOUTHS) BETWEEN FLANGE AND STUD.

C. CEILING PANELS
FOLLOW SAME PROCEDURE AS CALLED FOR IN FLOOR PANELS.

END, SECTION 8H

SECTION 8J
FINISH HARDWARE

1. GENERAL

A. WORK INCLUDED IN THIS DIVISION

ALL OTHER HARDWARE REQUIRED FOR PROPER OPERATING, FASTENING, AND LOCKING OF MOVABLE PARTS SHOWN ON DRAWINGS, WHETHER OR NOT LISTED IN HARDWARE SCHEDULE. IF NOT LISTED, BUT REQUIRED, PROVIDE OF MATCHING QUALITY AND FINISH.

B. HARDWARE APPLICATION

CONTRACTOR RESPONSIBLE FOR PROPER INSTALLATION AND APPLICATION IN LOCATIONS SPECIFIED.
LEAVE HARDWARE IN PROPER WORKING ORDER; TIGHTEN ALL NUTS, BOLTS, SCREWS PRIOR TO COMPLETION.
HARDWARE INSTALLATION IS COVERED UNDER SECTION HEADED "CARPENTRY AT SITE."

C. PACKING AND MARKING

PACKAGE EACH ITEM OF HARDWARE SEPARATELY.
INCLUDE NECESSARY BOLTS, SCREWS, KEYS, INSTRUCTIONS, AND INSTALLATION TEMPLATES.
MARK EACH CONTAINER WITH ITEM NUMBER SHOWN ON CONTRACTOR'S HARDWARE SCHEDULE.

D. HARDWARE SCHEDULE

SUBMIT FOUR COPIES TO ARCHITECT; OBTAIN APPROVAL BEFORE PROCEEDING.
LIST NUMBERS SPECIFIED, OR EQUIVALENT NUMBERS, FOR ALL ITEMS.
IF ACCEPTED, TWO RPPROVED COPIES WILL BE RETURNED TO CONTRACTOR.
APPROVAL OF SCHEDULE DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR FURNISHING ALL NECESSARY HARDWARE.

E. KEYING

(1) GENERAL:
ALL KEYS PROPERLY TAGGED WITH CLOTH TAGS FOR IDENTIFICATION.
MARK WITH ROOM NUMBER OR DESIGNATION.

(2) MASTERKEYING:
ALL CYLINDER LOCKS SUBJECT TO MASTER KEY.
CYLINDER LOCKS MASTERKEYED IN ONE GROUP.
FURNISH 5 MASTER KEYS EACH SET.
MASTER KEY TO BE SUPPLIED BY SCHOOL TO HARDWARE SUPPLIER FOR KEYING.

(3) DISPOSITION OF KEYS:
MASTER KEYS TO BE SENT DIRECT BY REGISTERED MAIL TO SUPERVISING ARCHITECT.

F. TEMPLATE HARDWARE

MAKE HARDWARE FOR METAL DOOR FRAMES TO TEMPLATE.
SEND BLUEPRINTS OR PHYSICAL TEMPLATES, TOGETHER WITH HARDWARE SCHEDULE, TO DOOR FRAME MANUFACTURER NOT LATER THAN TWO WEEKS AFTER APPROVAL OF HARDWARE SCHEDULE.

G. CABINET HARDWARE (SEE ALTERNATES) IF REQUIRED

INSTALL AT JOBSITE.

H. KEY CABINET

NONE REQUIRED

I. GUARANTEE

GUARANTEE ALL PRODUCTS FURNISHED, AGAINST DEFECTS IN WORKMANSHIP AND OPERATION, FOR A PERIOD OF ONE YEAR; MAKE MINOR ADJUSTMENTS AS REQUIRED.
NO LIABILITY TO BE ASSUMED BY HARDWARE SUPPLIER WHERE FAULTY OPERATION IS DUE TO EITHER IMPROPER INSTALLATION BY CONTRACTOR'S PERSONNEL OR BY OWNER'S FAILURE TO EXERCISE NORMAL MAINTENANCE AS DETERMINED BY ARCHITECT.
CONTRACTOR RESPONSIBLE FOR FAULTY INSTALLATION.
ONE COMPLETE SET OF WRENCHES, TOOLS AND MAINTENANCE ACCESSORIES REQUIRED FROM VARIOUS MANUFACTURERS WITH ITEMS OF HARDWARE FURNISHED SUCH AS LOCKS, DOOR CLOSERS, ETC.
CONTRACTOR IS RESPONSIBLE FOR HARDWARE DAMAGED BY MISUSE OR ABUSE AS DETERMINED BY ARCHITECT.

J. FINISHES

FURNISH HARDWARE IN THE HARDWARE SCHEDULE, FINISH US28 OR AS SPECIFIED BY SUPERVISING ARCHITECT IN "ALTERNATES."

K. ALTERNATE

SEE SECTION HEADED "BASE BIDS, ADDITIVE BIDS, AND ALTERNATES."
FURNISH HARDWARE FOR ADDITIONAL DOORS AND CABINETS AS REQUIRED.

MANUFACTURERS

A. SPECIFIED MANUFACTURERS

ALL HARDWARE REQUIRED SHALL BE MANUFACTURED BY RUSSELL & ERWIN OR AS APPROVED EQUAL BY SUPERVISING ARCHITECT.

B. FINISH HARDWARE SCHEDULE

ITEM 1

1 SGL (1) DOOR EXTERIOR FROM CLASSROOM 4 LHR 90 SWING
1 SGL (5) DOOR EXTERIOR FROM CLASSROOM 4 RHR 90 SWING

3' - 4" x 6' - 8" 1-3/4 WOOD DOOR x WOOD FRAME

3 PR. BUTTS	A3313CD 4½ x 4½ NRP AWS
2 EA. EXIT BOLTS	476 US28 KA MKD

2 EA. CLOSERS	D PA ALUM TBGN
2 EA. KICK PLATES	10 x 38 GRAY PANELYTE
2 EA. STOP & HOLDERS	823½ - US28
2 EA. THRESHOLDS	ALL0978 - 5 x 41" x MS & TAMPINS

ITEM 2

1 SGL (2) DOOR CLASSROOM 4 FROM TEACHERS STORAGE 3 LHR 90 SWING

2' - 6"x 6' - 8" 1-3/8 WOOD DOOR x WOOD FRAME

1½ PR. BUTTS	2714AP 3½ x 3½
1 EA. LOCKSET	340 TEMPO US28 KA MKD
1 EA. STOP	210½ US28

ITEM 3

SEE "ALTERNATES" FOR ADDITIONAL DOOR AND HARDWARE REQUIRED.

END OF SECTION 8J

SECTION 10A
BUILT-UP ROOFING

1. GENERAL

A. Furnish and install all roofing as described herein.

2. MATERIALS

A. Roofing over plywood decking.

1. Vapor Barrier: Fiberglas Combination Sheet - applied as per manufacturer's specifications.

2. Fiberglas Built-up Roof Specification A. I. A. File No. 12-B-1 Roofing Specifications, 3L5 WC shall be applied in accordance with the Fiberglas built-up roofing specifications of that number dated December, 1957, or the latest revision thereof.

3. APPLICATION

A. Material shall be applied in strict accordance with manufacturer's referenced specifications.

B. Carry a 12" membrane over joints of all flashing and roofing, securely mop to adjoining surfaces. Use Fabric reinforcing where deemed necessary.

C. Reinforce all angles, outlets, at intersection of mechanical outlets, etc., with an additional roofing ply, or fabric reinforcing.

D. Flood coats shall cover all flashing.

E. Roofing shall be applied in strict accordance with referenced manufacturer's specifications. Asphalt shall be as recommended by manufacturer for the conditions shown. Lap all existing work a minimum of 2'0".

F. Two (2) samples one foot square will be cut at random from roof after asphalt flood coat is applied. These will be weighed and checked against manufacturer's recommended weights.

4. GUARANTEE

The Contractor shall furnish the Owner with a maintenance guarantee in writing covering all roofing performed by him. Such shall guarantee the work to be free from all defects in material and workmanship, and further guarantees it to be water tight and not damaged by water, snow, or ice, and that it will remain plastic under all temperatures of this area. Such guarantee shall cover the rectifying of any of these defects for a period of two (2) years from the date of acceptance of the work.

END, SECTION 10A

SECTION 10E
SHEET METALWORK - GENERAL

1. GENERAL

A. SHOP DRAWINGS

SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH "GENERAL CONDITIONS," AND SUBMIT ONE 6 INCH LENGTH FULL SIZE SAMPLE OF EACH FORMED SECTION ON EXTERIOR SHEET METAL ITEMS FOR ROOF WORK.

B. PAINTING OF GALVANIZED METAL

AFTER FABRICATION BUT BEFORE INSTALLATION, CLEAN SURFACES WITH GASOLINE. COAT WITH SOLUTION OF 8 OUNCES COPPER SULPHATE TO THE GALLON OF WATER. PERMIT COATING TO REMAIN ON SURFACES 12 HOURS, THEN DUST OFF WITH STIFF BRUSHES. PAINT SURFACES WITH ONE COAT RED LEAD IN OIL TT-P-86A; SURFACES TO BE BUILT INTO ROOFING PAINTED ONE COAT ASPHALT PRIMER OVER DRIED RED LEAD IN OIL PRIMER. TOUCH UP DAMAGED AREAS IN SHOP COAT WHICH WILL BE CONCEALED AFTER INSTALLATION. TOUCH-UP AND FINISH PAINTING OF EXPOSED SURFACES AS SPECIFIED UNDER "PAINTING AND FINISHING."

C. ELECTROLYTIC PROTECTION

WHERE ALUMINUM IS IN CONTACT WITH OTHER MATERIALS, PAINT CONTACT SURFACES 2 COATS APPROVED BITUMINOUS PAINT.

D. GUARANTEE

SHEET METAL-WORK IS SUBJECT TO 2-YEAR GUARANTEE CALLED FOR IN "SPECIAL CONDITIONS".

E. ALTERNATE

SEE SECTION HEADED "BASE BIDS, ADDITIVE BIDS & ALTERNATES".

2. MATERIALS

A. GENERAL

ALL MATERIAL BEST COMMERCIAL QUALITY, THICKNESS NOT LESS THAN THAT NOTED BELOW. USE HEAVIER GAUGES WHERE CALLED FOR IN ITEM SPECIFICATION OR NOTED ON DRAWINGS.

B. GALVANIZED STEEL

ARMCO "ZINC-GRIP", OR BETHLEHEM OR REPUBLIC EQUIVALENT, 24 GAUGE, COPPER BEARING. IF SUPPLIED WITH "PAINTGRIP" OR "PAINTLOK" TYPE FINISH, COPPER SULPHATE FINISH, SPECIFIED ABOVE, MAY BE OMITTED.

C. SOLDER

BEST COMMERCIAL QUALITY, TYPE BEST SUITED TO MATERIAL TO BE SOLDERED.

D. NAILS

GALVANIZED STEEL FOR GALVANIZED STEEL.

E. PLASTIC CEMENT

JOHNS-MANVILLE "ASBESTILE" FLASHING CEMENT, OR APPROVED EQUAL.

3. SHEET METALWORK

A. WORKMANSHIP - GENERAL

EXECUTE BY SKILLED MECHANICS ACCORDING TO BEST METHODS KNOWN TO CRAFT.
LINES, MOLDINGS, EDGES SHARP AND TRUE, REINFORCED AS REQUIRED FOR STIFFNESS.
ALLOW FOR EXPANSION AND CONTRACTION, AND FOR SHRINKAGE OF WOOD CONSTRUCTION.
JOINTS AND SEAMS NEATLY FORMED AND FINISHED; SURFACES FREE FROM WAVES AND BUCKLES.
MAKE EXTERIOR WORK PERMANENTLY WEATHERTIGHT.

B. FLASHINGS - GENERAL

PROVIDE WHERE SHOWN ON DRAWINGS OR REQUIRED FOR A WEATHERTIGHT JOB.
CORNERS SHOP-FORMED AND SOLDERED, EXTENDING AT LEAST 1 FOOT EACH SIDE OF CORNER.
USE CONCEALED FASTENINGS WHEREVER POSSIBLE.
WHERE NECESSARY TO EXPOSE NAILING, USE LARGE-HEAD NAILS CAPPED WITH LEAD.

C. COUNTER FLASHING

FORM TO DETAIL IN 8-FOOT LENGTHS OF GALVANIZED STEEL.
WIDTH TO OVERLAP BASE FLASHING AT LEAST 4 INCHES.
JOINTS AT ANGLES SHOP-FORMED, AS ABOVE; LAPPED AT LEAST 3 INCHES ELSEWHERE.
PROVIDE WHEREVER ROOFS INTERSECT VERTICAL SURFACES, ELSEWHERE INDICATED.

D. SHEET METAL GRAVEL STOPS, ROOF EDGINGS & FLASHINGS

FORM TO DETAIL IN 8-FOOT LENGTHS OF GALVANIZED STEEL.
PAINT SURFACES IN CONTACT WITH ROOFING WITH BITUMINOUS PAINT (OVER SHOP PRIMER).
PROVIDE EDGE CLIPS OF 18 GAUGE GALVANIZED STEEL, NOT OVER 24" O.C.
NAIL EDGE CLIPS SECURELY TO WOOD CANT AND SHINGLES OR FASCIA; LOCK GRAVEL STOP OVER EDGE CLIPS.
SET GRAVEL STOPS LAPPED 3"; LAP AWAY FROM DIRECTION OF PREVAILING WINDS AND SET JOINT IN FULL BED OF PLASTIC CEMENT.
BED FLANGE IN HOT BITUMEN; NAIL THROUGH FLANGE 1 INCH FROM FRONT EDGE.
SPACE NAILS NOT MORE THAN 6 INCHES APART, OR AS REQUIRED BY ROOFING MANUFACTURER.

E. STRAINERS

REMOVABLE CUSTOM MADE BASKET TYPE, 1/2 INCH MESH 12 GAUGE GALVANIZED STEEL WELDED OR WOVEN WIRE MESH.
INSTALL IN EACH DRAIN OUTLET; FIT TIGHT.

F. CATCH BASIN & DOWNSPOUTS

PROVIDE 'Y' TYPE CATCH BASINS LEADING TO CORRUGATED SQUARE, GALVANIZED STEEL OR ALUMINUM.
1-3/4" x 2-1/4" x 8 OR 10 FOOT IN LENGTH.
LONGITUDINAL JOINTS LOCKED AND FULL SOLDERED, END JOINTS TELESCOPED.
SECURE TO WALL WITH STRAPS OF #20 GAUGE GALVANIZED STEEL OR ALUMINUM.
SOLDER STRAPS TO DOWNSPOUTS, FASTEN TO WALL WITH SCREWS.

END, SECTION 10E

SECTION 11A
PAINTING & DECORATING

1. GENERAL

A. THE FOLLOWING SPECIFICATIONS COVER THE COMPLETE PAINTING AND FINISHING OF ALL WOOD, CONCRETE, UNFINISHED METAL AND OTHER SURFACES THROUGHOUT THE INTERIOR AND EXTERIOR OF THE BUILDING, EXCEPT AS OTHERWISE SPECIFIED.

B. THE PAINTING CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIALS, TOOLS, LADDERS, SCAFFOLDING AND OTHER EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS WORK.

C. THE PAINTING CONTRACTOR SHALL EXAMINE THE SPECIFICATIONS FOR THE VARIOUS OTHER TRADES AND SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH ALL THEIR PROVISIONS REGARDING THEIR PAINTING; HE SHALL UNDERSTAND THAT ALL SURFACES THAT ARE LEFT UNFINISHED BY THE REQUIREMENTS OF OTHER SPECIFICATIONS, SHALL BE PAINTED OR FINISHED AS A PART OF THIS CONTRACT.

D. COPPER, BRONZE, CHROMIUM PLATE, NICKEL, STAINLESS STEEL, ALUMINUM AND MONEL METAL SHALL NOT BE PAINTED OR FINISHED, EXCEPT AS OTHERWISE SPECIFIED.

E. IF WOODWORK, METAL OR ANY OTHER SURFACE TO BE FINISHED CAN NOT BE PUT IN PROPER CONDITION FOR FINISHING BY CUSTOMARY CLEANING, SANDING, AND PUTTYING OPERATIONS, THE PAINTING CONTRACTOR SHALL IMMEDIATELY NITIFY THE GENERAL CONTRACTOR, ARCHITECT OR OWNER IN WRITING; OR ASSUME RESPONSIBILITY FOR AND RECTIFY ANY UNSATISFACTORY FINISH RESULTING.

2. STORAGE

A. ALL MATERIALS USED ON THE JOB SHALL BE STORED IN A SINGLE PLACE DESIGNATED BY THE OWNER OR SUPERVISING ARCHITECT. SUCH STORAGE PLACE SHALL BE KEPT NEAT AND CLEAN AND ALL DAMAGE HERETO OR TO ITS SURROUNDINGS SHALL BE MADE GOOD. ANY OILY RAGS, WASTE, ETC. MUST BE REMOVED FROM THE BUILDING EVERY NIGHT, AND EVERY PRECAUTION TAKEN TO AVOID THE DANGER OF FIRE.

3. EXTRAS

A. THE PAINTING CONTRACTOR SHALL NOT BE ENTITLED TO PAYMENT IN EXCESS OF THE AMOUNT AGREED UPON IN HIS CONTRACT FOR ANY EXTRA WORK OVER AND ABOVE THAT SPECIFIED HEREIN, UNLESS AUTHORIZED IN WRITING BY THE SUPERVISING ARCHITECT'S DULY AUTHORIZED REPRESENTATIVE.

4. MATERIALS

A. ALL MATERIALS USED ON THE WORK SHALL BE EXACTLY AS HEREINAFTER SPECIFIED IN BRAND AND QUALITY. NO CLAIM BY THE PAINTING CONTRACTOR AS TO THE UNSUITABILITY OR UNAVAILABILITY OF ANY MATERIAL SPECIFIED, OR HIS INABILITY TO PRODUCE FIRST CLASS WORK WITH SAME, WILL BE ENTERTAINED UNLESS SUCH CLAIMS ARE MADE IN WRITING AND SUBMITTED WITH HIS BID. ALL PAINTS, VARNISHES, ENAMELS, LACQUERS, STAINS, PASTE FILLERS AND SIMILAR MATERIALS MUST BE DELIVERED IN THE ORIGINAL CONTAINERS, WITH THE SEALS UNBROKEN AND LABELS INTACT.

B. ALL MATERIALS SHALL BE USED ONLY AS SPECIFIED BY THE MANUFACTURER'S DIRECTION LABEL ON THE CONTAINER.

C. ALL PAINTING MATERIALS, SUCH AS LINSEED OIL, SHELLAC, TURPENTINE, ETC. SHALL BE PURE AND OF HIGHEST QUALITY, AND SHALL BEAR AN IDENTIFYING LABEL ON THE CONTAINER.

D. BIDS SHALL BE BASED ON THE USE OF THE GOODS OF THE SPECIFIC BRAND AND QUALITY AS HEREINAFTER SPECIFIED. IF THE CONTRACTOR DESIRES TO USE THE MATERIALS OF A MANUFACTURER OTHER THAN THE MATERIALS SPECIFIED, HE SHALL ACCOMPANY HIS BID WITH SUCH REQUEST IN WRITING TO THE ARCHITECT FOR APPROVAL, GIVING THE NAME OF EACH PRODUCT HE OFFERS AS A SUBSTITUTE, AND SHALL STATE THE DIFFERENCE IN PRICE PER GALLON OF THE VARIOUS ITEMS, AND THE AMOUNT TO BE ADDED OR DEDUCTED FROM HIS BID FOR SUCH SUBSTITUTION. AFTER THE AWARD, NO SUBSTITUTION OF MATERIALS FOR THOSE MENTIONED IN THE ACCEPTED BID WILL BE PERMITTED.

E. ALL COLORS SHALL BE SELECTED OR APPROVED BY THE SUPERVISING ARCHITECT. IF REQUIRED, THREE PANELS FOR FINISH AND COLOR SHALL BE PREPARED IN ADVANCE, WITH THE MATERIALS AS SPECIFIED, FOR THE APPROVAL OF THE ARCHITECT.

5. <u>WORKMANSHIP</u>

A. THE WORKMANSHIP SHALL BE OF THE VERY BEST, ALL MATERIALS EVENLY SPREAD AND SMOOTHLY FLOWED ON WITHOUT RUNS OR SAGS. ONLY SKILLED MECHANICS SHALL BE EMPLOYED.

B. ALL SURFACES TO BE PAINTED, INCLUDING FLOORS, SHALL BE CLEANED FREE OF LOOSE DIRT AND DUST BEFORE PAINTING IS STARTED.

C. ALL KNOTS, PITCH STREAKS AND SAPPY SPOTS SHALL FIRST BE TOUCHED UP WITH PRATT & LAMBERT WP-578 SEALER OR SHELLAC WHERE THE FINISH CALLS FOR PAINT OR ENAMEL.

D. ALL NECESSARY PUTTYING OF NAIL HOLES, CRACKS, ETC., SHALL BE DONE AFTER THE FIRST COAT, WITH PUTTY OF A COLOR TO MATCH THAT OF THE FINISH. PUTTY SHALL BE BROUGHT FLUSH WITH THE ADJOINING SURFACE IN A NEAT AND WORKMANLIKE MANNER.

E. ALL METAL SURFACES SHALL FIRST BE WASHED WITH MINERAL SPIRITS, TO REMOVE ANY DIRT OR GREASE, BEFORE APPLYING MATERIALS. WHERE RUST OR SCALE IS PRESENT, IT SHALL BE WIRE BRUSHED OR SANDPAPERED CLEAN BEFORE PAINTING. SHOP COATS OF PAINT THAT BECOME MARRED SHALL BE CLEANED AND TOUCHED UP WITH THE PRATT & LAMBERT PRIMER SPECIFIED.

F. ALL GALVANIZED METAL SURFACES SHALL BE CHEMICALLY TREATED WITH A COMPOUND DESIGNED FOR THIS PURPOSE (LIGHOFORM, STIBLOY, SOLFO METALLIC COATING, ETC.) IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS FOR USE, BEFORE APPLYING THE FIRST COAT OF PAINT.

G. ALL SCRATCHES, CRACKS AND ABRASIONS IN PLYWOOD SURFACES AND OPENINGS ADJOINING TRIM, SHALL BE CUT OUT AS REQUIRED, THEN FILLED WITH SPACKLE, FLUSH WITH ADJOINING SURFACE, AND WHEN DRY SHALL BE SANDED SMOOTH AND SEALED BEFORE APPLICATION OF PRIMING COAT.

H. THE PRIMING COAT ON PLYWOOD SHALL BE TINTED TO THE APPROXIMATE SHADE OF THE FINAL COAT. THE CONTRACTOR SHALL SECURE COLOR SCHEDULES FOR ROOMS BEFORE PRIMING WALLS.

I. SURFACES TO BE STAINED SHALL BE COVERED WITH A UNIFORM COAT OF STAIN AND WIPED OFF IF REQUIRED.

J. ALL UNDERCOATS OF PAINT AND ENAMEL SHALL BE OF THE SAME OR APPROXIMATE SHADE AS THE FINAL COAT.

K. ALL WOODWORK TO BE FINISHED WITH ENAMEL OR VARNISH SHALL BE SANDED SMOOTH AND THE SURFACE CLEANED BEFORE PROCEEDING WITH THE APPLICATION OF THE FIRST COAT. ENAMEL OR VARNISH FINISH APPLIED TO WOOD OR METAL SHALL BE SANDED BETWEEN COATS WITH FINE SANDPAPER, TO PRODUCE AN EVEN, SMOOTH FINISH.

L. ALL COATS SHALL BE THOROUGHLY DRY BEFORE APPLYING SUCCEEDING COATS.

M. ALL WORK WHERE A COAT OF MATERIAL HAS BEEN APPLIED MUST BE INSPECTED AND APPROVED BY THE ARCHITECT BEFORE THE APPLICATION OF THE SUCCEEDING SPECIFIED COAT, OTHERWISE NO CREDIT FOR THE COAT APPLIED WILL BE GIVEN, AND THE CONTRACTOR AUTOMATICALLY ASSUMES THE RESPONSIBILITY TO RECOAT THE WORK IN QUESTION. THE PAINTING CONTRACTOR WILL FURNISH THE ARCHITECT A REPORT OF THE PARTICULAR COAT APPLIED WHEN COMPLETED FOR INSPECTION AND APPROVAL TO COMPLY WITH THE ABOVE.

N. ALL INTERIOR TRIM SHALL BE BACK-PRIMED BEFORE INSTALLATION, WITH PRATT & LAMBERT INTERIOR TRIM PRIMER OR APPROVED EQUAL.

O. ALL EXTERIOR TRIM SHALL BE BACK-PRIMED BEFORE INSTALLATION, WITH PRATT & LAMBERT HOUSE PAINT EXTERIOR PRIMER. TOPS OF ALL UPPER SASH AND BOTTOMS OF ALL LOWER SASH SHALL BE FINISHED SAME AS BALANCE OF SASH.

P. ALL PULLEY STILES SHALL BE OILED WITH BOILED LINSEED OIL.

Q. TOPS, BOTTOMS AND EDGES OF DOORS SHALL BE FINISHED SAME AS BALANCE OF DOORS AFTER THEY ARE FITTED BY THE CARPENTER.

R. ALL CLOSETS AND THE INTERIOR OF ALL CABINETS SHALL BE FINISHED THE SAME AS ADJOINING ROOMS, UNLESS OTHERWISE SPECIFIED. ALL OTHER SURFACES SHALL BE FINISHED THE SAME AS NEAREST OR ADJOINING SURFACES UNLESS OTHERWISE SHOWN.

S. THE INSIDES OF ALL DRAWERS SHALL BE GIVEN ONE COAT OF PURE WHITE SHELLAC AND ONE COAT OF PRATT & LAMBERT "38" PALE TRIM VARNISH GLOSS OR APPROVED EQUAL.

T. EXTERIOR PAINTING SHALL NOT BE DONE WHILE THE SURFACE IS DAMP, OR DURING RAINY OR FROSTY WEATHER.

U. WHERE INTERIOR OR EXTERIOR WOOD AND METAL ARE PRIMED IN THE MILL OR SHOP, THE MATERIAL SHALL IN EVERY CASE BE THAT SPECIFIED FOR SUCH SURFACES, AND SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS FOR THE FIRST OR PRIME COAT.

V. THE PAINTING CONTRACTOR SHALL NOT ONLY PROTECT HIS WORK AT ALL TIMES, BUT SHALL ALSO PROTECT ALL ADJACENT WORK AND MATERIALS BY SUITABLE COVERING OR OTHER METHOD DURING THE PROGRESS OF HIS WORK. UPON COMPLETION OF THE WORK, HE SHALL REMOVE ALL PAINT AND VARNISH SPOTS FROM THE FLOORS, GLASS AND OTHER SURFACES. HE SHALL REMOVE FROM THE PREMISES ALL RUBBISH AND ACCUMULATED MATERIALS OF WHATEVER NATURE NOT CAUSED BY OTHER TRADES AND SHALL LEAVE THE WORK IN CLEAN, ORDERLY AND ACCEPTABLE CONDITION.

W. ALL LETTERING SHALL BE EXECUTED IN STYLE AND DESIGN AS DIRECTED BY THE ARCHITECT, BY SKILLED AND CAPABLE MECHANICS EMPLOYED FOR THIS WORK.

6. EXTERIOR PAINTING

A. ALL DFPA MEDIUM DENSITY OVERLAY PLYWOOD SHALL BE GIVEN 1 COAT P&L HOUSE PAINT PRIMER #305; 2 COATS P&L LOW LUSTER HOUSE PAINT.

B. ALL DFPA TEXTURE 1-11 SHALL BE GIVEN 2 COATS P&L EXTERIOR RUSTIC STAIN.

C. ALL WOOD SUN SCREEN AND BEAMS SHALL BE GIVEN L COAT P&L EFFECTO PRIMER; 2 COATS P&L EFFECTO ENAMEL.

D. ALL WOOD FASCIA, AND MISCELLANEOUS WOOD, PIERS AND FLOOR BEAMS SHALL BE GIVEN L COAT P&L HOUSE PAINT PRIMER #305; 2 COATS P&L LOW LUSTER HOUSE PAINT.

E. ALL WOOD DECKS SHALL BE GIVEN 3 COATS P&L "61" FLOOR AND PORCH ENAMEL. NOTE: 1ST COAT TO BE THINNED WITH ONE QUART MINERAL SPIRITS TO ONE GALLON ENAMEL; AND THE FINAL COAT TO CONTAIN L LB. WALNUT SHELLS FOR SKID-PROOFING.

F. ALL SHEET METAL FLASHING AND MISCELLANEOUS FERROUS METALS SHALL BE GIVEN 1 COAT P&L #25 ZINC CHROMATE PRIMER; 2 COATS P&L EFFECTO ENAMEL. NOTE: ALL GALVANIZED METAL TO BE TREATED ACCORDING TO SECTION "F" UNDER "WORKMANSHIP".

7. INTERIOR PAINTING

A. ALL DFPA FIR PLYWOOD SHALL BE GIVEN L COAT P&L FILTEX, SANDED LIGHTLY; 1 COAT P&L TONETIC WOOD STAIN; 1 COAT P&L "38" PALE TRIM VARNISH GLOSS, SANDED; 1 COAT P&L "38" PALE TRIM VARNISH SATIN OR DULL.

B. ALL WOOD SASH SHALL BE GIVEN 1 COAT P&L INTERIOR TRIM PRIMER; 2 COATS P&L CELLU-TONE SATIN.

C. ALL LOW ROOF CEILINGS (DFPA MEDIUM DENSITY OVERLAY PLYWOOD) SHALL BE GIVEN 1 COAT P&L INTERIOR TRIM PRIMER; 1 COAT P&L LYT-ALL FLOWING FLAT.

END, SECTION 11A

SECTION 11D
GLASS & PLASTIC GLAZING

1. GENERAL

A. Furnish and install all crystal glass, wire glass and plastic as shown on the drawings and and described h rein.

2. MATERIAL

A. Crystal sheet glass - 3/16" heavy sheet glass as manufactured by Libby-Owens-Ford, Pittsburg Plate Glass Company, or approved equal.

B. Plastic Glass - 8 oz. "Filon" or approved equal. Color to be selected by owner.

C. Wire Glass - 1/4" polished Misco, as manufactured by Miss. Glass Company or approved equal.

3. APPLICATION

A. General

1. Glass shall be cut and set as to allow "waves" to run horizontally.

2. Rabbets and stops shall be primed, clean, and dry before any glazing is done.

3. Cut glass accurately; block to fit opening all around.

4. Sash equipped with wood stops - bed glass in putty, secure stops neatly, without defacement.

5. Cleaning by General Contractor.

6. Do no glazing when temperature is below 40 degrees F., or when dirt is present. Do no glazing in wet weather, except under cover.

END, SECTION 11D

DIVISION 11F
CAULKING

1. GENERAL

A. The Contractor shall provide all items, articles, materials, operations and services mentioned or schedules on the Drawings and/or mentioned herein, including all labor, materials, equipment and incidentals necessary and required for their completion.

B. Work in other Sections: Vapor Barrier

2. CAULKING

A. Material - A. C. Horn, Vulcatex Kaukit, or approved equal.

B. Application - Joints clean, free from dust and dirt. Joints over 3/4" deep pack with Oakum to within 3/4" of surface. Apply compound as per manufacturer's instruction to fit joint. Fill all joints before final coat of paint. Remove any excess, leave all neat, clean, and watertight.

C. Area to be treated - Joints around frames of doors, windows, other openings, in exterior walls and other joints where necessary and/or indicated to be caulked, or as directed.

END, SECTION 11F

DIVISION 14D
CHALKBOARD, TACKBOARD, PEGBOARD

1. GENERAL

   A. APPLICABLE NOTES AND REFERENCES CALLED OUT ON THE DRAWINGS SHALL BE CONSIDERED A PART OF THIS SECTION OF THE SPECIFICATIONS.

2. MATERIAL

   A. CHALKBOARD & TACKBOARD SHALL BE DURASLATE AS MANUFACTURED BY P. B. S. SUPPLY COMPANY, 1321 ALOHA STREET, SEATTLE 9, WASHINGTON, OR APPROVED EQUAL. MANUFACTURED AS DETAILED ON THE DRAWINGS AS TO SIZE AND TYPE. COLOR AS SELECTED BY SUPERVISING ARCHITECT.

   B. PEGBOARD SHALL BE STANDARD 1/4" PERFORATED DFPA A-A PLYWOOD OR APPROVED EQUAL.

3. INSTALLATION

   A. GENERAL CONTRACTOR SHALL INSTALL ON SITE IN ACCORDANCE WITH DRAWINGS AND UNDER SUPERVISING ARCHITECT'S DIRECTION.

4. SIZES

   A. SIDEWALL OF CLASSROOM SHALL RECEIVE A 4'x8' CHALKBOARD WITH A 4'x4' CORKBOARD ON BOTH ENDS, COMPRISING A TOTAL UNIT OF 4' HIGH BY 16' LONG.

   B. ENDWALL OF CLASSROOM SHALL RECEIVE A 4'x8' CHALKBOARD.

5. ALTERNATES

   SEE ALTERNATES 1E FOR ANY SPECIAL CONDITIONS LISTED BY SUPERVISING ARCHITECT OR OWNER.

END, DIVISION 14D

13A - RESILIENT FLOOR COVERING

1. GENERAL

ENTIRE INTERIOR FLOOR AREA TO BE COVERED.

2. TEMPERATURE TO BE MAINTAINED

NOT LOWER THAN 70 DEGREES F. FOR 48 HOURS BEFORE LAYING, DURING LAYING AND FOR 48 HOURS AFTER LAYING.

3. DELIVERY OF MATERIAL

DELIVER IN UNBROKEN PACKAGES, MANUFACTURER'S ORIGINAL LABELS THEREON. DO NOT REMOVE LABELS OR OPEN PACKAGES UNTIL INSPECTED AND APPROVED BY ARCHITECTS.

4. COLORS AND PATTERNS

ARCHITECT WILL SELECT FROM SAMPLES SUBMITTED BY CONTRACTOR FROM PRICE GROUP HEREINAFTER NAMED.

5. MATERIALS

ARMSTRONG OR APPROVED EQUAL. 9x9 INCH SIZE. SELECTED FROM GRADE "C" WITH A GRADE "D" TILE TO BE USED AS STRIPING UNDER BEAMS.

6. INSTALLATION

A. PREPARATION OF SURFACE

SEE THAT SURFACES ARE IN PROPER CONDITION FOR INSTALLATION OF COVERING. REMOVE GREASE, DIRT AND OTHER FOREIGN SUBSTANCES. FILL OPEN JOINTS WIDER THAN 1/16" WITH HARDSETTING MATERIAL.

B. METHOD OF INSTALLATION

FOLLOW STANDARD SPECIFICATIONS OF ASPHALT TILE INSTITUTE.

7. RUBBER BASE

PROVIDE A $2\frac{1}{2}$ INCH MOULDED RUBBER BASE AS CALLED FOR ON THE DRAWINGS. INSTALL AS PER MANUFACTURER'S SPECIFICATIONS.

END, SECTION 13A

DIVISION 19A
ELECTRICAL WORK

1. GENERAL

A. SCOPE: Included in the Electrical work is all work and related items necessary to provide a complete electrical installation; furnish all labor, material and tools, etc.

B. PLANS: Drawing is diagrammatic and right is reserved to make reasonable changes in location and arrangement without extra cost to the owner.

C. CODES: All work shall conform to the National, State and Local Electrical Codes, which shall be a minimum standard. All work shall be approved by the electrical inspector; furnish certificate of inspection to owner.

D. WORKMEN: All work shall be done by competent craftsmen.

2. MATERIALS

All materials shall be new, free from defects and listed as approved by the Underwriters Laboratories, Inc. Each type of material shall be of the same make and quality throughout the work. Any material not exactly "as specified" shall be approved by the architect.

A. RACEWAYS: All conduit shall be galvanized and sheardized steel or aluminum. Wiremold shall be as manufactured by the Wiremold Company.

B. COUPLINGS AND CONNECTIONS FOR TUBING shall be split corrugated ring and tightening nut, or stainless steel gripping ring.

C. CONDUIT FITTINGS shall be cast or malleable iron or cast aluminum.

D. UNION JOINTS IN RIGID CONDUIT: Erickson or O-Z split couplings.

E. CONDUIT: All raceway shall be installed in a neat workmanlike manner. Provide ample clearance around other materials. Boxes shall be independently and securely supported.

F. GROUNDING: Exercise care to insure continuity of grounding connections throughout the job. Fixtures and outlets connected with Wiremold shall be grounded with a separate green ground-wire.

G. WIRE AND CABLE: National Electrical Code, Type R, RHW, RH, RW, TW, THW and AF insulated copper conductor.

H. MINIMUM WIRE SIZE: Lighting and power #12AWG; Fixture wire #14AWG.

I. WIRE PULLING shall be done in a workmanlike manner without nicking or peeling insulation.

J. FIXTURES shall be neatly installed and thoroughly cleaned prior to final acceptance. Contractor shall be responsible for all breakage and replace at no additional cost to the owner.

K. SURFACE DEVICES shall be in cast boxes or Wiremold boxes.

L. TESTS: ALL WIRING SHALL BE TESTED ACCORDING TO STANDARD PRACTICE TO THE SATISFACTION OF THE ARCHITECT AND THE OWNER.

M. NOTE: SEE DIVISION 20 FOR OUTSIDE WIRING BETWEEN EXISTING POWER SOURCE AND NEW CLASSROOM, ALSO SUPERVISING ARCHITECT'S PLOT PLAN.

N. DRAWINGS: SEE DRAWINGS FOR TYPES OF FIXTURES AND HEATING UNITS PLUS ADDITIONAL NOTES.

END, DIVISION 19A